

**Louisiana Department of Public Safety & Corrections  
LADPS - Louisiana State Penitentiary - Angola  
Angola, West Feliciana Parish, Louisiana  
Agency Interest Number: 6634**

**Louisiana Department of Environmental Quality (LDEQ)  
Office of Environmental Services**

**STATEMENT OF BASIS**

**Louisiana Department of Public Safety & Corrections  
LADPS - Louisiana State Penitentiary - Angola  
Angola, West Feliciana Parish, Louisiana  
Agency Interest Number: 6634  
Activity Number: PER20070001  
Proposed Permit Number: 3160-00013-V0**

**I. APPLICANT**

**Company:**

LADPS - Louisiana State Penitentiary - Angola  
Hwy 66 - General Delivery  
Angola, Louisiana 70712

**Facility:**

Louisiana Department of Public Safety & Corrections  
Hwy 66  
Angola, West Feliciana Parish, Louisiana  
Latitude: 30 57 21; Longitude: 91 35 87

**II. FACILITY AND CURRENT PERMIT STATUS**

LADPS – Angola currently operates a Consumat incinerator Model C-550-T-1H refuse incinerator equipped with an automatic loader ML-225A. The incinerator has a rated capacity of 1500 lb/hr with a maximum material (waste) heat content of 8,000 BTU/lb.

The primary purpose of the incinerator is to burn refuse generated on site. The general refuse is delivered by LADPS – Angola trucks and piled up on the pavement in the incinerator area. A front-end loader is used to transport the refuse from this staging area to the incinerator.

The vast majority of the waste fed to the incinerator is clean trash with a significant heating value (8,400 Btu/lb). The waste has such a high heating value that the waste can sustain the operation of the incinerator without supplemental fuel, except for a very short start-up period when a 0.75 MM BTU/hr natural gas-fired start-up burner is fired in the unit's primary chamber. Approximately 1.97% of the annual incinerated waste is red bag (medical) waste.

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The facility generates approximately 1,562 ton/yr, or 4.3 tons/day, of trash that needs to be incinerated.

LADPS - Louisiana State Penitentiary - Angola is a designated Part 70 source.

### **III. PROPOSED PROJECT/PERMIT INFORMATION**

LADPS – Angola proposes to install a new incinerator, Model CEC 2012, and remove the existing Model C-50T-1H incinerator.

#### **Application**

A permit application and Emission Inventory Questionnaire were submitted by Louisiana Department of Corrections on May 16, 2007 requesting an operating permit. A revised submittal dated August 29, 2007 requesting a Part 70 Operating permit was also received. Additional information dated January 18, 2008 was also received.

#### **Project**

The load rate of the Model CEC 2012 is 3,500 lb/hr, based on loading the unit for eight hours. After eight hours, loading is discontinued because the incinerator has reached its maximum capacity with respect to the material that can be held in the primary combustion chamber. The unit then goes into a burn down phase for four hours, followed by a 12-hour cool down phase. This will give the unit an estimated burn capacity of 2,333 lb/hr for 12 hours, and a load rate of 3,500 lb/hr for eight hours. This equates to a processing capacity of the unit of 14 ton/day.

#### **Proposed Permit**

Permit 3160-00013-V0 will be the initial Part 70 operating permit for the LADP Louisiana State Penitentiary – Angola facility.

#### **Permitted Air Emissions**

Estimated emissions in tons per year are as follows:

<u>Pollutant</u>	<u>Before</u>	<u>After</u>	<u>Change</u>
PM <sub>10</sub>	1.72	0.52	- 1.20
SO <sub>2</sub>	2.34	0.15	- 2.19
NO <sub>x</sub>	9.41	3.47	- 5.94
CO	5.36	0.82	- 4.54
VOC	0.21	0.08	- 0.13

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LAC 33:III Chapter 51 Toxic Air Pollutants (TAPs):

Pollutant	Before	After	Change
Dioxin and Furans	NA	Neg.	Neg.
Cadmium	NA	0.0003	+ 0.0003
HCl	4.16	0.401	- 3.7590
Lead	NA	0.004	+ 0.0040
Mercury	NA	0.001	+ 0.0013
Total	4.16	0.4063	- 3.7537

#### IV REGULATORY ANALYSIS

The applicability of the appropriate regulations is straightforward and provided in the Specific Requirements section of the proposed permit. Similarly, the Monitoring, Reporting and Recordkeeping necessary to demonstrate compliance with the applicable terms, conditions and standards are also provided in the Specific Requirements section of the proposed permit.

**Applicability and Exemptions of Selected Subject Items**

ID No.	Requirement	Note
Facility Wide	40 CFR 60 Subpart A General Provisions	All affected stationary sources shall comply with applicable provisions of this part
	LAC 33:III.927 – Notification Required (Unauthorized Discharges)	The unauthorized discharge of any air pollutant into the atmosphere shall be reported in accordance with the provisions of LAC 33:III Chapter 39.
EQT 28 Trash Incinerator	LAC 33:III.Chapter 51 – State Only	DOES NOT APPLY – Facility is a minor source of Louisiana Toxic Air Pollutants
	40 CFR 60 – Subpart E – Standards of Performance for Incinerators. [40 CFR 60.50]	DOES NOT APPLY. Charging rate is less than 50 tons/day.
	40 CFR 60 – Subpart Ec – Standards of Performance for Hospital /Medical/ Infectious Waste Incinerators for Which Construction or modification is Commenced After June 20, 1996. [40 CFR 60.50c(d)]	EXEMPT. Because it is required to obtain a Part 70 Permit under section 3005 of the Solid Waste Act.
	40 CFR 60 – Subparts A and EEEE	Must establish operating limits for:

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	Required operating limits which must be developed as specified in 40 CFR 60.2916 and Table 2	Maximum Charge Rate – this must be monitored continuously, with data recorded every hour and reported on a 3-hr rolling average
	40 CFR 60 – Subparts A and EEEE  Emission limits specified in 40 CFR 60.2915 and Table 1	Subpart EEEE Emission Limits  Cadmium – 18 µg/dsm <sup>3</sup> @ 7% O <sub>2</sub>  CO – 40 ppmvd @ 7% O <sub>2</sub>  Dioxins & Furans - 33 ng/dsm <sup>3</sup> @ 7% O <sub>2</sub>  HCl - 15 ppmvd @ 7% O <sub>2</sub>  Lead - 226 µg/dsm <sup>3</sup> @ 7% O <sub>2</sub>  Mercury - 74 µg/dsm <sup>3</sup> @ 7% O <sub>2</sub>  Opacity – Maximum 10%  NOx - 103 ppmvd @ 7% O <sub>2</sub>  PM – 0.013 grains/dscf @ 7% O <sub>2</sub>  SO <sub>2</sub> – 3.1 ppmvd @ 7% O <sub>2</sub>

**MACT Requirements**

NA

**Air Quality Analysis**

NA

**General Condition XVII Activities**

The facility will comply with the applicable General Condition XVII Activities emissions as required by the operating permit rule. However, General Condition XVII Activities are not subject to testing, monitoring, reporting or recordkeeping requirements. For a list of approved General Condition XVII Activities, refer to the Section VIII – General Condition XVII Activities of the proposed permit.

**Insignificant Activities**

All Insignificant Activities are authorized under LAC 33:III.501.B.5. For a list of approved Insignificant Activities, refer to the Section IX – Insignificant Activities of the proposed permit.

**V. PERMIT SHIELD**

No permit shield was requested.

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## **VI. PERIODIC MONITORING**

Carbon monoxide monitored by continuous emission monitor (CEM) continuously. Subpart EEEE [40 CFR 60.2932(b)]

Oxygen monitored by continuous emission monitor (CEM) continuously at 7% O<sub>2</sub>. Monitor the oxygen concentration at the location the carbon monoxide is monitored. Subpart EEEE [40 CFR 60.2932(a)]

Bypass stack: Equipment/operational data monitored by hour/time monitor upon each occurrence of the use of the bypass stack. Include date, time, and duration. Subpart EEEE. [40 CFR 60.2932(b)]

Secondary chamber: Carbon monoxide monitored by CMS continuously. Measure the carbon monoxide concentration in the exit flue gas. [LAC 33:III.2521.F.6]

Secondary chamber: Oxygen monitored by CMS continuously. Measure the oxygen concentration in the exit flue gas. [LAC 33:III.2521.F.6]

Secondary chamber: Temperature monitored by continuous recorder continuously. Measure [LAC 33:III.2521.F.6]

## **VII. GLOSSARY**

Carbon Monoxide (CO) – A colorless, odorless gas, which is an oxide of carbon.

Maximum Achievable Control Technology (MACT) – The maximum degree of reduction in emissions of each air pollutant subject to LAC 33:III.Chapter 51 (including a prohibition on such emissions, where achievable) that the administrative authority, upon review of submitted MACT compliance plans and other relevant information and taking into consideration the cost of achieving such emission reduction, as well as any non-air-quality health and environmental impacts and energy requirements, determines is achievable through application of measures, processes, methods, systems, or techniques.

Hydrogen Sulfide (H<sub>2</sub>S) – A colorless inflammable gas having the characteristic odor of rotten eggs, and found in many mineral springs. It is produced by the reaction of acids on metallic sulfides, and is an important chemical reagent.

New Source Review (NSR) – A preconstruction review and permitting program applicable to new or modified major stationary sources of air pollutants regulated under the Clean Air Act (CAA). NSR is required by Parts C (“Prevention of Significant Deterioration of Air Quality”) and D (“Nonattainment New Source Review”).

Nitrogen Oxides (NO<sub>x</sub>) – Compounds whose molecules consist of nitrogen and oxygen.

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Organic Compound – Any compound of carbon and another element. Examples: Methane (CH<sub>4</sub>), Ethane (C<sub>2</sub>H<sub>6</sub>), Carbon Disulfide (CS<sub>2</sub>)

Part 70 Operating Permit – Also referred to as a Title V permit, required for major sources as defined in 40 CFR 70 and LAC 33:III.507. Major sources include, but are not limited to, sources which have the potential to emit:  $\geq 10$  tons per year of any toxic air pollutant;  $\geq 25$  tons of total toxic air pollutants; and  $\geq 100$  tons per year of regulated pollutants (unless regulated solely under 112(r) of the Clean Air Act) (25 tons per year for sources in non-attainment parishes).

PM<sub>10</sub> – Particulate matter with an aerodynamic diameter less than or equal to a nominal 10 micrometers as measured by the method in Title 40, Code of Federal Regulations, Part 50, Appendix J.

Potential to Emit (PTE) – The maximum capacity of a stationary source to emit any air pollutant under its physical and operational design.

Prevention of Significant Deterioration (PSD) – A New Source Review permitting program for major sources in geographic areas that meet the National Ambient Air Quality Standards (NAAQS) at 40 CFR Part 50. PSD requirements are designed to ensure that the air quality in attainment areas will not degrade.

Sulfur Dioxide (SO<sub>2</sub>) – An oxide of sulfur.

Sulfuric Acid (H<sub>2</sub>SO<sub>4</sub>) – A highly corrosive, dense oily liquid. It is a regulated toxic air pollutant under LAC 33:III.Chapter 51.

Title V Permit – See Part 70 Operating Permit.

Volatile Organic Compound (VOC) – Any organic compound, which participates in atmospheric photochemical reactions; that is, any organic compound other than those, which the administrator of the U.S. Environmental Protection Agency designates as having negligible photochemical reactivity.